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Article

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GENERAL & APPLIED ECONOMICS | RESEARCH ARTICLE

Does wealth bring happiness?

Hakan Altin^{1*}

Abstract: The main purpose of this study is to determine the relationship between wealth and happiness. The study, which uses the 2023 World Happiness Report, uses data from 74 countries. For this purpose, three static and two dynamic models are estimated in a panel data environment. According to all three models, wealth is a factor of happiness. However, happiness cannot be explained by a single wealth factor. Wealth is the fourth-factor explaining happiness. It is seen that the effect of wealth on happiness is limited. There are other important factors affecting happiness. What is certain is that there is a relationship between wealth and happiness. The strength of this relationship is different for different countries and different cultures. In addition, different benchmarks and different research methods lead to different results. The first task for governments, companies and individuals is identifying the factors explaining happiness. The second is to develop policies related to these factors. The third is to achieve social consensus. In conclusion, there is a need for more research on the relationship between wealth and happiness. Existing studies provide important information to the parties involved in understanding this relationship. Thus, they contribute to a happier world.

Subjects: Economics; Finance; Business, Management and Accounting

Keywords: world happiness report; freedom to make life choices; generosity; healthy life expectancy at birth; life ladder; log GDP per capita; negative affect; perceptions of corruption; positive affect; social support

JEL Classification: C33; C51; C54

1. Introduction

Financial management was first used in the literature in 1952 by American financier and investor Benjamin Graham. In his book “The Intelligent Investor,” Graham defined the purpose of financial management as “maximizing the wealth of shareholders.” According to Graham (1952), financial management is a set of practices to provide the funds a business needs from the most appropriate sources and to use these funds under the most favorable conditions in the most efficient or profitable investments. According to Buffett (2014), the best way to maximize shareholders’

ABOUT THE AUTHOR

Hakan Altin was born in Ankara. He completed his undergraduate education in Anadolu University, Department of Economics in 1996. He completed his postgraduate education at Ankara University with a withstanding degree in 2010 and received his Ph.D. in Business Administration. He is currently working as a Professor Doctor in the Faculty of Economics and Administrative Sciences, Department of Business Administration at Aksaray University. The author has penned numerous articles and book chapters in finance.

wealth is to focus on the long term. A long-term focus requires investing in the value of the business, regardless of market fluctuations. Bogle (2011) argues that a low-cost investment strategy is the best way to maximize shareholder wealth. A low-cost investment strategy allows investors to make more money in the long run. According to Gong and Ionescu-Bujor (2019), financial management is important in realizing a company's mission and vision. Financial management helps businesses to grow and increase profitability by using their financial resources effectively. This increases the wealth of the shareholders of the enterprises. In another study, Zhang and Li (2021) showed that financial management is important in increasing a company's social responsibility. Financial management increases the growth and profitability of businesses by using their financial resources effectively. This enables businesses to fulfill their social responsibilities.

In this framework, financial management is a broad field of study. Within this broad field of study, many important principles explain the functioning of financial management. The first of these principles is self-interested behavior. The first people to use the principle of "self-interested behavior" in finance were the 18th-century British philosopher and economist Adam Smith and the Scottish philosopher David Hume. In his book "The Wealth of Nations," Smith argued that people act to maximize their self-interest and that these actions result in the general good of society. He argues that this allows markets to function efficiently. Smith's view has been called the "invisible hand." Smith's view is still valid today. When people try to maximize their self-interest, markets operate efficiently. This benefits both individuals and society. However, Smith's view has also been subject to some criticism. Some have argued that Smith's view implies that people only think about their self-interest, which can harm society. However, Smith (2003) argues that people can make decisions that benefit society while maximizing their self-interest. Similarly, Hume (1985), in his *Essays, Moral and Political*, argues that people act to maximize their self-interest and that these actions may, but are not always guaranteed to, result in the general good of society.

Based on the definition and principle of financial management, this study seeks to answer whether wealth brings happiness. In other words, what is the relationship between happiness and wealth? Part of the answer to this question can be found in the World Happiness Reports.

The World Happiness Report is an annual report published by the United Nations Sustainable Development Solutions Network (World Happiness Report, 2023). The report, which ranks the happiest countries in the world, creates a happiness index by considering factors such as people's overall life satisfaction, social support, freedom, generosity and optimism. In this framework, a relationship is established between wealth and happiness. Countries with higher incomes tend to be happier. However, the relationship between income and happiness is not linear. Having a higher income may lead to an increase in happiness, but this increase is limited. Helliwell et al. (2023) examine the happiest countries in the world and the key drivers of happiness in these countries. The study shows that happiness is influenced by factors such as economic development, social support, freedom, generosity and optimism. The common theme for the world's happiest countries is a strong state that offers its citizens a high quality of life. These countries provide citizens with good education, health care, job opportunities and social security. They have low levels of corruption and instability. In addition, happy countries have more stable and peaceful societies.

Rhoads and Marsh (2023) examined the relationship between generosity and well-being in another study. Generosity is the act of helping others or giving up one's interests. Well-being is one's overall life satisfaction. The study shows that generosity positively impacts the well-being of both generous givers and beneficiaries. Besley et al. (2023) examined the impact of government effectiveness on welfare. Government effectiveness has a positive impact on welfare. Government effectiveness increases citizens' welfare factors such as life satisfaction, social support, freedom, generosity and optimism. Government effectiveness decreases welfare factors such as income inequality, corruption and instability.

In conclusion, happiness cannot be achieved through material wealth alone. Factors such as social relations, freedom, generosity and optimism are also important for happiness. This study analyzes the relationship between wealth and happiness using a Panel Data Analysis approach.

2. Theoretical framework

In this section of the study, the issue of happiness is analyzed within the theoretical framework.

According to Powdthavee (2007), happiness increases economic growth, improves labor productivity and positively impacts health. Increasing happiness includes strengthening social relations, adopting a healthy lifestyle, and volunteering. Carlsen (2018) showed in his study that happiness improves the quality of life of individuals and societies. Sustainability is a factor that ensures the protection of the environment and resources. Happiness and sustainability are factors that support each other in the development of a country. According to Klamár and Gaval'ová (2018), happiness is a factor that increases the quality of life of individuals and societies. Quality of life increases the well-being of individuals and societies. Happiness and quality of life are mutually reinforcing factors in the development of a country. According to research by Khder et al. (2022), happiness is influenced by factors such as individuals' life satisfaction, social support, freedom, generosity and optimism. A combination of these factors determines the happiness of individuals.

3. Literature review

In this section of the study, studies on happiness are summarized.

In their studies, Stevenson and Wolfers (2008) examined the impact of economic growth on subjective well-being in both developed and developing countries. The findings of the study show that economic growth can increase subjective well-being in the short term, but that this increase can stop in the long term. The conclusion of the study is that economic growth is not the only way to increase subjective well-being. Other factors, such as social relationships, health, and quality of life, can also affect subjective well-being. In their study, Kahneman and Deaton (2010) examined the impact of high income on life evaluation and emotional well-being in both developed and developing countries. The findings of the study show that high income improves life evaluation but not emotional well-being. Life evaluation is a measure of how people rate the overall quality of their lives. Emotional well-being is the sum of the positive and negative emotions that people experience in their daily lives. The conclusion of the study is that high income improves life evaluation by helping people meet their basic needs and improve their quality of life. Blanchflower and Oswald (2011) examined the measurement of international happiness levels and the factors affecting these levels. They found that there is a positive relationship between international happiness levels and factors such as economic growth, social support, freedom and government trust. An increase in these factors increases the level of happiness. On the other hand, there is a negative relationship between international happiness levels and factors such as unemployment, crime and corruption. The goal of the study by Dunn et al. (2014) is to research whether prosocial spending increases happiness. The findings of the study show that people are happier when they spend their money on others. These findings are valid for both correlational analysis and experimental studies. Correlational analysis shows that people who are more likely to spend their money on others are also happier. Similarly, experimental studies directly show that people are happier when they spend their money on others. The conclusion of the study is that prosocial spending can increase happiness. Therefore, people who want to feel happier may want to consider spending their money on others. Costanza et al. (2014) discuss the inadequacy of gross domestic product (GDP) as a measure of development. They found that GDP does not take into account important development challenges such as environmental degradation, inequality and social unrest. In response, they suggested that GDP should be replaced by a new measure that takes into account factors such as happiness, health and education as a more comprehensive and sustainable measure of development. Curini et al. (2015) examined individual happiness in Italy using data from Twitter. The happiness levels of

individuals in Italy are generally high. However, some regions were found to have more happy individuals than others. These regions have more economic opportunities and a better quality of life. Kasmaoui and Bourhaba (2017) examined the impact of public spending on happiness. It is found that the effect of public expenditures on happiness is positive. An increase in public expenditures increases the level of happiness. This is because public spending improves people's quality of life, increases access to health care and increases access to education. In particular, health expenditures and education expenditures have been found to have the greatest impact on happiness. Bazurto-Gomez et al. (2018) visualized data from the World Happiness Report for 2017 and 2018 using an information visualization application. The application allowed users to compare countries according to various factors such as life satisfaction, social support, freedom, generosity, and optimism. The findings of the study showed that by using the application, users were able to learn more about the quality of life of countries and better understand the relationships between countries. Musa et al. (2018) examined how strategic urban planning can improve an individual's subjective well-being. For this, a measurement tool called the community happiness index was used. In the study, factors affecting community happiness were identified to develop the community happiness index. The happiness of communities is influenced by life satisfaction, social support, safety, health, education, income, environment, culture, sports, arts and entertainment. A combination of these factors determines the happiness of communities. Carlsen (2018) examined the relationship between happiness and sustainability. The results of the study showed that happiness and sustainability play an important role in the development of a country. Governments should develop policies to increase happiness and sustainability. Companies should develop practices to increase happiness and sustainability. Individuals should exhibit behaviors that increase happiness and sustainability. Klamár and Gaval'ová (2018) examined the relationship between regional happiness and quality of life in Slovakia. The findings of the study showed that there is a positive relationship between regional happiness and quality of life in Slovakia. This means that happy regions tend to have higher quality of life. The results of the study contain an important message for governments. Nyein et al. (2018) provide insights into happiness by collecting data from the World Happiness Reports and analyzing these data through data visualizations. The study shows that there is a positive relationship between happiness and economic development, social support, healthy life expectancy, freedom and optimism. In addition, there is a negative relationship between happiness and income inequality, corruption and instability. In the study by Ugur (2018), the relationship between the donation behavior and happiness levels of people living in the Netherlands is examined. The findings of the study suggest that there are several reasons why prosocial spending can increase happiness. First, prosocial spending meets the needs of people to help others and to value others. Second, prosocial spending makes people feel good and positive. Third, prosocial spending strengthens the commitment of people to their communities and to society. The conclusion of the study is that donating can increase people's happiness. Tomic and Stjepanovic (2019) examined the relationship between the happiness index, GDP and green GDP. They found that there is a positive relationship between the happiness index and green GDP. Increasing green GDP increases the happiness index. This is because green GDP increases people's happiness by improving environmental quality and ensuring sustainable development. In contrast, there is a negative relationship between the happiness index and GDP. An increase in GDP decreases the happiness index. This is because GDP decreases people's happiness by increasing environmental pollution and other social problems. Ulkhaq (2020) used data from the 2020 World Happiness Report to cluster countries and investigate the characteristics of these clusters. The findings of the study showed that the quality of life in countries is determined by the factors of social support, freedom, generosity and optimism. Governments should develop policies and establish practices to improve quality of life. Companies should improve their workplaces to improve quality of life. Individuals should adopt healthy lifestyles to improve quality of life. In his study, Carlsen (2020) examined the factors affecting the level of happiness in Denmark and the impact of these factors on the level of happiness in Denmark. He showed that the factors affecting Denmark's happiness level are life satisfaction, social support, freedom, generosity and optimism. Denmark's happiness level is a combination of these factors. Riyantoko (2020) examined

the happiness levels of Southeast Asian countries and the differences between these countries. Factors affecting the happiness levels of Southeast Asian countries include income, education, health, life expectancy, social support and freedom. The happiness levels of Southeast Asian countries are generally high. However, some countries are happier than others. The happiest countries are those with high incomes, good education, high standards of health, long life expectancy, strong social support and broad freedoms. Georgescu et al. (2020) examined the relationship between economic inequality, happiness and human development. They found that there is a negative relationship between economic inequality and happiness. Increasing economic inequality reduces the level of happiness. This is because economic inequality reduces people's happiness by increasing social unrest, crime and other social problems. In addition, there is a negative relationship between economic inequality and human development. Increasing economic inequality reduces the level of human development. This is because economic inequality reduces people's quality of life by limiting access to health, education and other social services. Stryzhak (2020) examined the relationship between education, income, economic freedom and happiness. He found that there is a positive relationship between education and happiness. It shows that increasing the level of education will increase the level of happiness. This is because education enables people to find a better job, earn a higher income and have a better quality of life. There is a positive relationship between income and happiness. An increase in income level increases the level of happiness. This is because income enables people to buy more goods and services, have a better quality of life and enjoy more freedom. The Tofallis (2020) study aimed to find the best formula for national happiness. He found that the best formula for national happiness is economic growth, social support, freedom and trust in government. It shows that increasing these factors will increase the level of happiness. In addition, he found that the best formula for national happiness may vary by country and culture. Ibnat et al. (2021) provides information on understanding world happiness and using this understanding to develop policies and practices to increase happiness. In the study, he identified the factors affecting happiness. Accordingly, happiness is affected by factors such as life satisfaction, social support, freedom, generosity, optimism, income, education, health, trust, gender and age. A combination of these factors determines the happiness of individuals. Nikam (2021) identified the factors affecting happiness in his study. The factors affecting world happiness are life satisfaction, social support, freedom, generosity, optimism, income, education, health, trust, gender and age. Life satisfaction is the factor that affects happiness the most. Social support is the second most influential factor in happiness. Freedom is the third most influential factor in happiness. Generosity is the fourth most influential factor in happiness. Optimism is the fifth most influential factor in happiness. Income is the sixth most influential factor in happiness. Education is the seventh most important factor affecting happiness. Health is the eighth most important factor affecting happiness. Trust is the ninth most influential factor in happiness. Gender is the tenth most influential factor in happiness. Age is the eleventh most influential factor in happiness. The country is the twelfth most influential factor in happiness. A combination of these factors determines world happiness. Sarracino and O'Connor (2021) developed a measure of well-being productivity. Welfare productivity is a concept used to measure the relationship between individuals' happiness and productivity. There is a positive relationship between welfare productivity and an individual's happiness and productivity. This shows that an increase in the happiness of individuals will increase their productivity. This is because individuals' happiness increases their motivation, creativity and labor productivity. Kwon et al. (2021) examined the impact of urban green spaces on happiness in developed countries. They found that urban green spaces have a positive effect on happiness. Urban green spaces help to reduce stress, increase social interaction and improve overall quality of life. Urban green spaces are an important tool to increase people's happiness. In the study by Ugur (2021), the impact of money on happiness in Turkey is examined. Correlational analyses show that there is a positive relationship between income level and happiness levels. In other words, people with higher income levels are happier than people with lower income levels. This finding has been consistently found in studies conducted in both developed and developing countries. Experimental studies directly show that people are happier when they spend their money on

others. The conclusion of the study is that the impact of money on happiness is both direct and indirect. Mukhopadhyay et al. (2022) investigated the relationship between a healthy lifestyle and the World Happiness Report in Asia and Europe. The findings of the study showed that there is a positive relationship between a healthy lifestyle and the World Happiness Report in Asia and Europe. This suggests that individuals with healthy lifestyles tend to be happier. Khder et al. (2022) examined the factors affecting happiness and how these factors affect happiness. Life satisfaction, social support, freedom, generosity and optimism are factors that affect happiness. Accordingly, life expectancy is the factor that affects world happiness the most. Income is the second most important factor affecting world happiness. Freedoms are the third most important factor affecting world happiness. Social support is the fourth most important factor affecting world happiness. Generosity is the fifth most important factor affecting world happiness. Trust is the sixth most important factor affecting world happiness. Good governance is the seventh most important factor affecting world happiness. Hua (2022) examined the relationship between the expenditures of individuals in China and the level of happiness index. He found that individuals' expenditures have a positive relationship with the level of happiness index. This can be explained by the fact that individuals' spending improves the quality of life and provides more satisfaction. The government can develop policies that can increase individuals' spending. These policies may include income tax reductions, ease of access to education and health services, and social security. Bublyk et al. (2022) compared the happiness levels of countries in their study. He found that there is a relationship between the happiness level of the population and sustainable development. In countries where the population is happy, sustainable development is better realized. This is because, in countries where the population is happy, people are more productive, more creative and more socially engaged. In order to achieve sustainable development, the happiness of the population should be increased. Helliwell et al. (2023) calculated a happiness index to identify the happiest countries in the world, taking into account factors such as life satisfaction, social support, freedom, generosity and optimism. There is a positive relationship between happiness and economic development, social support, freedom, generosity and optimism. There is also a negative relationship between happiness and income inequality, corruption and instability. This information can help governments and other organizations to develop policies to increase happiness.

4. Data and methodology

The main objective of this study is to determine the static and/or dynamic relationship between happiness and wealth in a panel data environment. Using the 2023 World Happiness Report, the study utilizes data from 74 countries. The variables used in the study are freedom to make life choices, generosity, healthy life expectancy at birth, life ladder, log GDP per capita, negative affect, perceptions of corruption, positive affect, and social support.

5. Limitations of the study

The 2023 World Happiness Report has data on 137 countries covering the years 2005–2022. In this study, data for 74 countries covering the years 2010–2021 are used. In addition, unit root tests are not performed if the number of observations of the units in both time series and panel data is well below 30. For observation numbers below 30 in the time series, not only unit root but also no analysis is allowed. However, in panel data analysis, even if the number of observations of the units is well below 30, forecasts and other analyses are made, but unit root tests are not required. The number of observations for the units used in this study is 11. In addition, the lag of the series should be taken for dynamic analysis. The analysis is continued by taking the difference of the series.

6. Panel data analysis

In this section of the study, a brief summary of the Panel Data Model will be given.

Baltagi (1995), in his book *Econometric Analysis of panel data*, defines panel data as “data collected from the same units at different time points.” Panel data analysis combines the

advantages of time series analysis and cross-sectional analysis to provide a more powerful and more general analysis. The method is divided into Static Linear Models and Dynamic Linear Models.

6.1. Static linear model

According to Verbeek, a static linear model in a panel data set is a model that describes the relationship between a dependent variable and one or more independent variables. The fixed effects model assumes that there are unobservable factors that are unique for each observation unit and that these factors affect the dependent variable. The random effects model assumes that these unobserved factors are randomly distributed across observation units and do not affect the dependent variable.

The mathematical form of the model is as follows:

$$y_{it} = \alpha_i + x'_{it}\beta + \varepsilon_{it} \quad (1)$$

Here, it is a vector representing the set of explanatory variables. K is the dimension of the vector. It contains no constants, meaning that the coefficients for each unit are the same. However, the mean value of each unit may be different. α_i represents the effects of variables that are unit-specific and constant over time. ε_{it} is the error term. In the standard case, ε_{it} is assumed to be independent and uniformly distributed across individuals and over time, i.e., observations in each unit are independent of each other and observations in each time period are independent of each other. The variance is $\sigma^2\varepsilon$. If we treat α_i as N number of fixed unknown parameters, the model in (1) is called the “standard fixed effects model.”

An alternative approach is the random effects model. In the model, the parameters α_i are drawn randomly from a distribution with mean μ and variance $\sigma^2\alpha$. This means that the parameters α_i can be different, but they are drawn from one distribution. The error term ε_{it} is assumed to be independent and uniformly distributed but not necessarily independent of the parameters α_i . This means that the error terms ε_{it} can be correlated for different units and different time periods but not correlated with the parameters α_i .

$$y_{it} = \mu + x'_{it}\beta + \alpha_i + \varepsilon_{it} \quad (2)$$

where μ is the intercept term.

According to Wooldridge (2010), the random effects model is a panel data analysis model that assumes that unit effects are not correlated with the dependent variable. This model is less restrictive than the fixed effects model, which assumes that unit effects are correlated with the dependent variable. Therefore, the random effects model is more general than the fixed effects model. The fixed effects model is a panel data analysis model that assumes that unit effects are correlated with the dependent variable.

6.2. Dynamic linear models

According to Verbeek (2008, p. 360–361), in a linear dynamic model, the error term ε_{it} may depend on the values of the dependent variable in previous time periods. This makes the error term ε_{it} correlated with the dependent variable. This means that the fixed effects model becomes inconsistent. The random effects model is consistent with the dynamic model. However, the random effects model is less efficient than the fixed effects model. This means that the random effects model requires more data than the fixed effects model.

The mathematical form of the model, including exogenous variables and lagged dependent variables, is as follows.

$$\begin{aligned} y_{it} &= x'_{it}\beta + \gamma y_{i,t-1} + \alpha_i + \varepsilon_{it} \\ y_{it} &= \gamma y_{i,t-1} + \alpha_i + \varepsilon_{it}, \quad |\gamma| < 1 \end{aligned} \quad (3)$$

Hsiao (2003) argues that linear dynamic models are suitable for researchers who study a time-varying trend of the dependent variable, taking into account time effects. In linear dynamic models, error terms are assumed to have a normal distribution. However, this assumption may not always be true.

7. Research findings

As explained in the limitations section of the study, in panel data analysis, forecasts and other analyses can be made even if the number of observations of the units is well below 30; however, there is no need for a unit root test (Table 1).

If the number of observations is 27–28, it can be done by assuming approximately 30 (in this case, it is more appropriate to apply homogeneous panel unit root tests by assuming that the observations of units consisting of up to 25–30 observations are homogeneous). However, homogeneous or heterogeneous panel unit root tests are not used for unit observation numbers below 25–20. Since the number of observations of the “units” used in this study is 11, which is well below 30, unit root tests are not needed. Instead, the analysis starts with determining the optimal lag level.

Various information criteria are used to determine the appropriate number of lags. Table 2 shows that there are two decision options for determining the optimal number of lags. Accordingly, the optimal number of lags is either 0 or 1. In this framework, the lag 0 option, which responds to the purpose of the study, is preferred. Therefore, the lags of the series are not taken.

At this stage, it is decided which of the random effects and fixed effects will be used. Hypothesis tests are written as H0: Random Effects and H1: Fixed Effects. According to Table 3, since the prob. value is $0.8416 > 0.05$, the hypothesis H0 is accepted. In this case, estimation is done with random effects.

The results of the static linear model in a panel data set are presented in Table 4. Accordingly, there is a linear relationship between happiness score or subjective well-being (ladder) and GDP per capita in purchasing power parity (PPP) (percentile), i.e., wealth, freedom to choose what to do with your life (freedom), donating money to charity (generosity), healthy life expectancy (healthy), positive emotions (positive), social support or having someone to rely on in difficult times (social support). In other words, a positive increase in these variables increases the degree of happiness. Wealth is one of these factors. However, the increase in happiness does not depend on a single factor but on multiple important factors. Each factor has a different degree of influence on happiness. In a ranking, healthy (3.60) is the first variable, followed by social support (2.06), positive (1.46), generosity (0.63), freedom (0.54), and per capita (0.32). It is noteworthy that wealth is the last variable affecting happiness. In contrast, there is a negative relationship between happiness score or subjective well-being (ladder) and corruption and negative emotions in government and business. In other words, an increase in these variables decreases the degree of happiness. In a ranking, negative emotions have the most negative impact, with negative (–1.49) followed by corruption (–0.51). In technical terms, a 1% increase in the healthy variable causes a 3.60-point increase in the happiness index. On the other hand, a 1% increase in the negative variable leads to a decrease of 1.49 points in the happiness index. Similar interpretations can be made for other variables.

The results of the dynamic linear first model in the panel data environment are given in Table 5. Accordingly, there is a linear relationship between happiness and the variables healthy, social

Table 1. Descriptive Statistics						
	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
BLADDER	-0.003795	0.019967	2.532915	-4.085212	0.520905	738
DCORRUPTION	0.000973	-0.003931	0.662824	-0.708804	0.084987	738
DFREEDOM	-0.001014	0.002521	0.290281	-0.423079	0.076836	738
GENEROSITY	0.001596	0.003729	0.440432	-0.505007	0.087652	738
DLOGHEALTHY	0.000537	0.002142	0.224465	-0.356927	0.036202	738
DNEGATIVE	0.000442	0.001323	0.223810	-0.224133	0.049382	738
DPERCAPITA	-0.000783	0.016901	2.626980	-3.258755	0.379426	738
DPOSITIVE	0.000397	0.000968	0.296424	-0.370201	0.053652	738
DSOCIALSUPPORT	0.000307	0.001947	0.335211	-0.406965	0.058823	738

Table 2. Optimal lag

Lag	LogL	LR	FPE	AIC	SC	HQ
0	786.0790	NA	1.93e-16	-10.64492	-10.46100*	-10.57019*
1	909.7036	230.3143	1.08e-16*	-11.22882*	-9.389607	-10.48150
2	989.8591	139.4487	1.10e-16	-11.21725	-7.722750	-9.797354
3	1050.946	98.74364	1.49e-16	-10.94447	-5.794683	-8.851993
4	1103.297	78.16788	2.34e-16	-10.55202	-3.746942	-7.786959
5	1177.683	101.8986	2.83e-16	-10.46141	-2.001051	-7.023775
6	1260.974	103.8287*	3.19e-16	-10.49280	-0.377148	-6.382579
7	1346.157	95.68443	3.76e-16	-10.55009	1.220847	-5.767292
8	1432.036	85.87943	4.81e-16	-10.61694	2.809294	-5.161552

*indicates lag order selected by the criterion

Table 3. Random effects - hausman test results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.168947	8	0.8416

Table 4. Panel EGLS test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.006001	0.013771	-0.435751	0.6631
DCORRUPTION	-0.507372	0.182260	-2.783781	0.0055
DFREEDOM	0.536136	0.201327	2.663015	0.0079
GENEROSITY	0.629205	0.163356	3.851747	0.0001
DLOGHEALTHY	3.604416	0.733002	4.917334	0.0000
DNegative	-1.490297	0.316974	-4.701637	0.0000
DPERCAPITA	0.322517	0.071491	4.511284	0.0000
DPOSITIVE	1.462835	0.290360	5.038004	0.0000
DSOCIALSUPPORT	2.058844	0.290291	7.092351	0.0000

support, positive, generosity, freedom, and per capita. On the other hand, there is a negative relationship between happiness and negative and corruption variables. In this environment, the static and first dynamic models in the panel data environment yielded the same results.

The results of the second dynamic linear model in the panel data environment are given in Table 6. Accordingly, there is a linear relationship between happiness and the variables healthy, social support, positive, generosity, freedom, and per capita. On the other hand, there is a negative relationship between happiness and negative and corruption variables. In this environment, the static and second dynamic models in the panel data environment yielded the same results.

In this study, the relationship between wealth and happiness is analyzed between static and dynamic in a panel data environment. Accordingly, the static model and dynamic models give the same results. All findings are statistically significant.

Table 5. Panel fully modified least squares (FMOLS) test results

Panel method: Pooled estimation				
Cointegrating equation deterministic: C				
Coefficient covariance computed using the default method				
Long-run covariance estimates (Bartlett kernel, Newey-West fixed bandwidth)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DCORRUPTION	-0.614716	0.161595	-3.804055	0.0002
DFREEDOM	0.564240	0.185487	3.041934	0.0025
GENEROSITY	0.697961	0.146489	4.764594	0.0000
DLOGHEALTHY	3.668424	0.660904	5.550618	0.0000
DNEGATIVE	-1.297396	0.280404	-4.626885	0.0000
DPERCAPITA	0.280474	0.063687	4.403940	0.0000
DPOSITIVE	1.529887	0.256732	5.959090	0.0000
DSOCIALSUPPORT	2.339138	0.255907	9.140560	0.0000
R-squared	0.564684	Mean dependent var		-0.003541
Adjusted R-squared	0.503361	S.D. dependent var		0.542346
S.E. of regression	0.382205	Sum squared resid		83.99648
Long-run variance	0.085353			

Table 6. Panel dynamic least squares (DOLS) test results

Panel method: Pooled estimation				
Cointegrating equation deterministic: C				
Static OLS leads and lags specification				
Coefficient covariance computed using the default method				
Long-run variance (Bartlett kernel, Newey-West fixed bandwidth) used for coefficient covariances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DCORRUPTION	-0.477921	0.152167	-3.140756	0.0018
DFREEDOM	0.545000	0.167034	3.262809	0.0012
GENEROSITY	0.595515	0.136386	4.366385	0.0000
DLOGHEALTHY	3.853586	0.632254	6.094999	0.0000
DNEGATIVE	-1.526913	0.261038	-5.849393	0.0000
DPERCAPITA	0.294990	0.060916	4.842566	0.0000
DPOSITIVE	1.456781	0.238912	6.097559	0.0000
DSOCIALSUPPORT	2.109994	0.239028	8.827393	0.0000
R-squared	0.541821	Mean dependent var		-0.003795
Adjusted R-squared	0.485247	S.D. dependent var		0.520905
S.E. of regression	0.373730	Sum squared resid		91.62637
Long-run variance	0.081380			

8. Conclusion and discussion

In this study, the answer to the question “Does wealth bring happiness?” is sought. For this purpose, three models, one static and two dynamic, are estimated in a panel data environment. According to all three models, wealth is a factor of happiness. However, happiness cannot be explained by a single wealth factor. In this study, wealth is the fourth-factor explaining happiness. The impact of wealth on happiness is relatively limited. Therefore, there are other important factors affecting happiness. There is a consistency between the results of this study and those of Blanchflower and Oswald (2011), Dunn et al. (2014), Costanza et al. (2014), Kasmaoui and Bourhaba (2017), Musa et al. (2018), Ugur (2018), Tomic and Stjepanovic (2019), Stryzhak (2020), Tofallis (2020), Ibnat et al. (2021), Nikam (2021), Ugur (2021), Khder et al. (2022), Hua (2022) and Helliwell et al. (2023). What is certain is that there is a relationship between wealth and happiness. The strength of this relationship is different for different countries and different cultures. Moreover, the use of different benchmarks and different research methods also leads to different results.

The first task for governments, companies and individuals is to identify the factors that explain happiness. The second is to develop policies related to these factors. The third is to achieve social consensus. In conclusion, there is a need for more research on the relationship between wealth and happiness. Existing studies provide important information to parties in understanding this relationship. Thus, they contribute to a happy world.

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